

Case Study

Grosvenor MSCP



Grosvenor is a busy multi-story car park in Northampton serving a major shopping centre. The car park decks remained unprotected until the 1990's.

Location
Northampton, UK

Client
Aecom

Completed
July 2011

Structure
Multistorey Car Park



The Problem Identified

Dynamic cracking and moisture ingress through Grosvenor car park deck joints had led to chloride contamination of the concrete and subsequent reinforcement corrosion. The early failure of previous concrete repairs represented poor value for money for owners as further expenditure was required on the structure.



The Solution Developed

As a consequence of high levels of chlorides any future repairs were likely to fail prematurely due to corrosion activity around the patch, induced through the removal of contaminated concrete i.e. the 'incipient anode' or 'ring anode' effect.

CPT designed a refurbishment scheme using PatchGuard™ galvanic anodes to stop ongoing corrosion and prevent further failure. Rather than the traditional approach of embedding sacrificial anodes within the patch repair over 1400 PatchGuard anodes were installed in the surrounding concrete. The protective current was delivered directly to the steel outside the patch which was at the greatest corrosion risk, as opposed to the clean steel within the patch repair. Unlike some other galvanic patch repair anodes, high quality polymer modified repair mortar could be used without compromising the cathodic protection provided by the PatchGuard anodes.

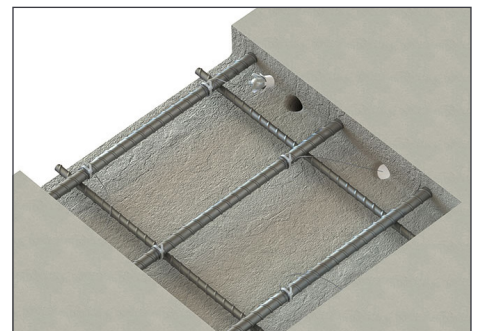


The Benefits Provided

Corrosion related deterioration of Grosvenor multi-story car park has been halted. PatchGuard anodes are compact, simple and quick to install causing minimum disruption. Placed within the host concrete for enhanced current distribution PatchGuard anodes provide low maintenance, long term protection of concrete repairs. The system is self-powered, minimising future maintenance requirements and associated life costs. The risk of secondary corrosion around the perimeter of the concrete patch repairs has been mitigated thus significantly extending the life of the patch repairs.



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PatchGuard™ Solution

CPT Products Used



PatchGuard™



DuoCrete
PG Mortar

